

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. (Currently amended): A luminescent material for scintillators, comprising a single crystal of an Yb-containing mixed-crystal oxide which has a composition represented by either one of $R_3Al_5O_{12}$, $R_3Ga_5O_{12}$ and $Li_6R(BO_3)_3$, wherein R is a mixture of Yb and either one of [[Y,]] Gd and Lu, and said Yb as an element capable of forming an optically active state called CTS together with a neighboring negative ion adjacent thereto, wherein the molar ratio of either one of [[Y,]] Gd and Lu to Yb in said R satisfies the conditions expressed by the following formulas:

$$1.04x + 1.02y \leq 1.03;$$

$$x + y = 1;$$

$$0 < x < 1; \text{ and}$$

$$0 < y < 1,$$

wherein x is a molar ratio of Yb, and y is a molar ratio of either one of [[Y,]] Gd and Lu.

2. (Currently amended): A luminescent material for scintillators, comprising a single crystal of an Yb-containing mixed-crystal oxide which has a composition represented by either one of ~~$LaR_2Ga_3O_{12}$~~ $La_3R_2Ga_3O_{12}$ and $Gd_3R_2Ga_3O_{12}$, wherein R is a mixture of Yb and either one of Y, Gd and Lu, and said Yb as an element capable of forming an optically active state called

CTS together with a neighboring negative ion adjacent thereto, wherein the molar ratio of either one of Y, Gd and Lu to Yb in said R satisfies the conditions expressed by the following formulas:

$$1.04x + 1.02y \leq 1.03;$$

$$x + y = 1;$$

$$0 < x < 1; \text{ and}$$

$$0 < y < 1,$$

wherein x is a molar ratio of Yb, and y is a molar ratio of either one of Y, Gd and Lu.

3. (Canceled).

4. (New): A luminescent material for scintillators, comprising a single crystal of an Yb-containing mixed-crystal oxide which has a composition represented by either one of $R_3Ga_5O_{12}$ and $Li_6R(BO_3)_3$, wherein R is a mixture of Yb and Y, and said Yb as an element capable of forming an optically active state called CTS together with a neighboring negative ion adjacent thereto, wherein the molar ratio of Y to Yb in said R satisfies the conditions expressed by the following formulas:

$$1.04x + 1.02y \leq 1.03;$$

$$x + y = 1;$$

$$0 < x < 1; \text{ and}$$

$$0 < y < 1,$$

wherein x is a molar ratio of Yb, and y is a molar ratio of Y.